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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/665,988

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Ramakrishnan Venkata Subramanian

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FISH & RICHARDSON, PC

P.O. BOX 1022

MINNEAPOLIS, MN 55440-1022

EXAMINER

CHO, HONG SOL

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

10/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/665,988

Applicant(s)

SUBRAMANIAN, RAMAKRISHNAN  
VENKATA

Examiner

Hong Cho

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Response to Amendment*

1. This office action is in response to the amendment filed on 8/31/2007. Claims 1-6 are pending in the instant application.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al (US 5289470), hereinafter referred to as Chang, in view of Bremer et al (US 6032190), hereinafter referred to as Bremer.

Re claim 1, Chang discloses a network switch with a plurality of network interfaces associated with buffers (*a data switch having a plurality of ports being associated with one or more queues for data packets*, column 3, lines 63-64), a network connectivity for connecting network interfaces to a plurality of networks based on a packet type such as FDDI, Ethernet and Token Ring (*a switching fabric for transferring*

*data packets received at one of the ports to another of the ports specified by a header of the data packet, column 3, lines 65-67), and a memory partitioned into sets of buffers (a memory divided into packet buffers, column 4, lines 39-41). Chang discloses comparing the size of the packet to be stored with the buffer size (a control unit for determining whether a data packet to be stored in one of the queues meets a criterion for efficient storage in the packet buffers, column 5, lines 40-45) and storing exceeded portions of data into respective further buffers if the packet size is greater than the size of a given buffer (dividing the data packet into a first portion which is stored in the packet buffers, column 5, lines 47-51). Chang fails to disclose storing the second portion into a plurality of registers. Bremer discloses dividing packet into two portions and storing a portion to registers (figure 4, element 150; column 7, lines 29-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Chang to implement the feature of storing a portion of data packet into registers providing quicker access, as suggested in Bremer(column 2, lines 4-7), for the benefit of improving buffer memory utilization.*

For the purpose of the examination, the term, "integer", is interpreted to be one.

Re claims 2 and 3, Chang discloses determining whether the packet size is greater than the buffer size, where the difference is the threshold value (*the criterion for efficient storage is whether the length of the data packet is greater by more than a threshold than an integer multiple of the size of the packet buffers, column 5, lines 41-45*). The portion

corresponding to the threshold value is stored into a respective buffer (*a memory storing the threshold value*).

Re claim 5, Chang discloses storing data packet in buffers and transferring further portions of the data packet to respective further buffers if the length of the data packet is greater than the size of the packet buffers (*if the determination is negative, transmitting the second portion of the data packet without it having been stored in the memory*, column 5, lines 41-45) but fails to disclose storing the second portion into a plurality of registers. Bremer discloses dividing packet into two portions and storing a portion to registers (figure 4, element 150; column 7, lines 29-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Chang to implement the feature of storing a portion of data packet into registers providing quicker access, as suggested in Bremer(column 2, lines 4-7), for the benefit of improving buffer memory utilization.

Re claim 6, Chang discloses a networking device with an Ethernet interface (*an Ethernet switch*, column 3, lines 64-66).

***Allowable Subject Matter***

4. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

5. Applicant's arguments filed on 8/31/2007 have been fully considered but they are not persuasive.

On page 5 of the Remarks the applicant argues that the combination of Chang and Bremer is based on impermissible hindsight by reciting that there would have been no reason to combine Chang and Bremer. The examiner respectfully disagrees. Bremer suggests separating data packet into a header and data portion and putting a header portion into a register to achieve the user's desired balance between buffer memory utilization and buffer memory management overhead.

On page 6 of the Remarks the applicant argues that Chang does not disclose any comparison of the packet size and buffer size. In reply, Chang discloses a control unit comparing/determining if the packet size is greater than the size of the first buffer in column 5, lines 42-44. The applicant further argues that the combination of Chang and Bremer teaches away from the invention claimed in claim 1 by reciting that a header portion of the data packet is always stored in a register and a data portion of the packet is always stored in a buffer. The examiner respectfully sees this argument misplaced. The examiner relied on Bremer to show that packets are divided into two portions and storing a portion to a register. In this case, it is the combined teaching of two references that meets the limitation of claim 1.

Therefore, the Examiner concludes that the rejection of claims stands.

*Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
9/28/07  
WING CHAN  
SUPERVISORY PATENT EXAMINER

*hc*  
Hong Cho  
Patent Examiner  
9/28/07